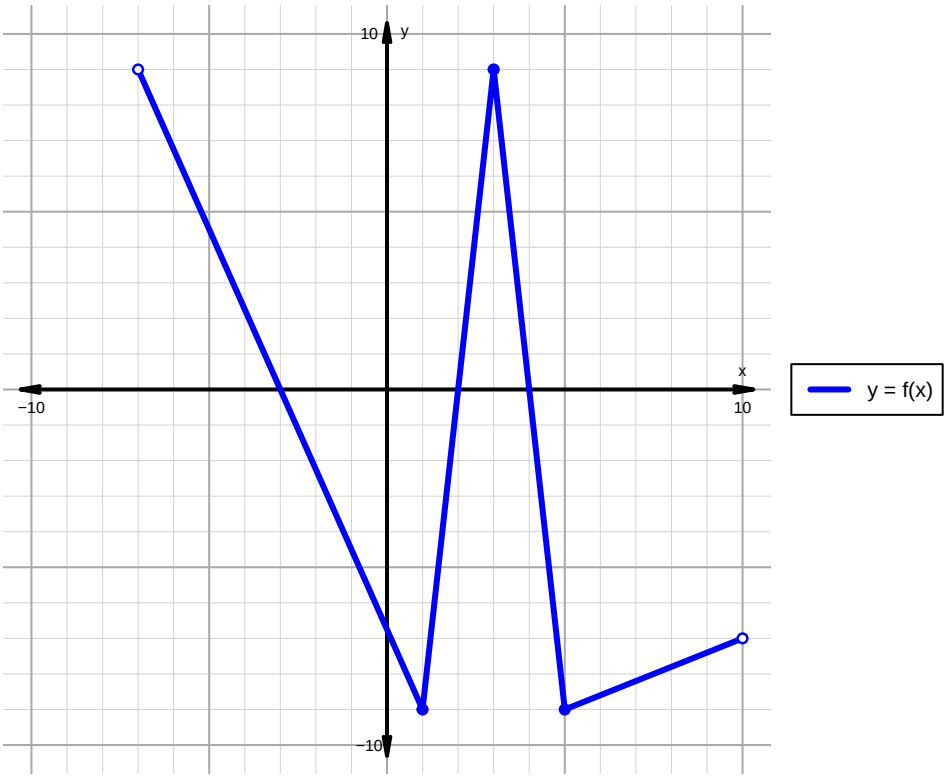
Name: Date:

Intervals, Transformations, and Slope Solution (version 157)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7,-3)\cup(2,4)$
Negative	$(-3,2)\cup(4,10)$
Increasing	$(1,3)\cup(5,10)$
Decreasing	$(-7,1)\cup(3,5)$
Domain	$(-7,10)$
Range	$(-9,9)$

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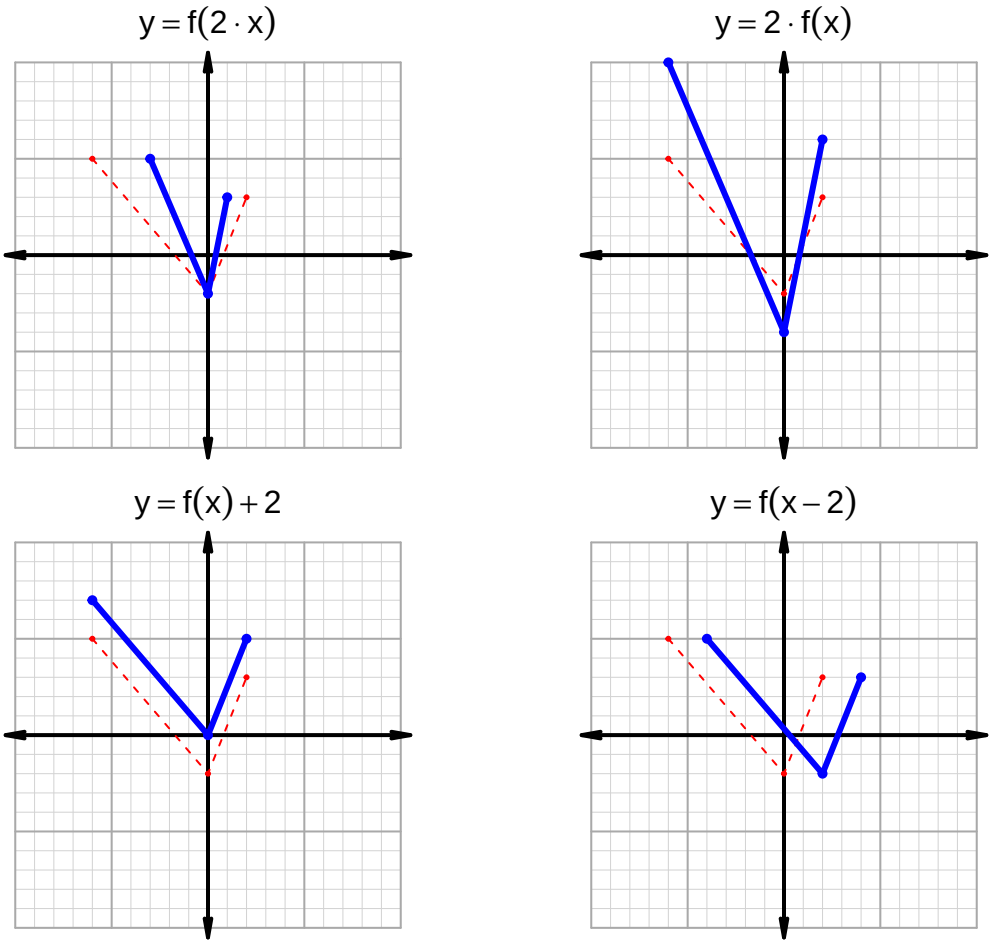
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 16$ and $x_2 = 44$. Express your answer as a reduced fraction.

x	$g(x)$
16	67
35	16
44	35
67	44

$\frac{g(44)-g(16)}{44-16} = \frac{35-67}{44-16} = \frac{-32}{28}$

The greatest common factor of -32 and 28 is 4. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-8}{7}$$